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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2008; month=12; day=2; hr=14; min=11; sec=12; ms=388;]

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Reviewer Comments:

<210> 10

<211> 137

<212> PRT

<213> Artificial Sequence

The above <213> response requires explanation in the <220>-<223>
section: please give the source of the genetic material. Same error in
Sequences 12, 14, 16, 18, 20, and 22.

Application No: 10599313

Version No: 1.0

Input Set:

Output Set:

Started: 2008-10-30 15:01:37.785

Finished: 2008-10-30 15:01:40.599

Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 814 ms

Total Warnings: 24

Total Errors: 7

No. of SeqIDs Defined: 35

Actual SeqID Count: 35

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)

Input Set:

Output Set:

Started: 2008-10-30 15:01:37.785
Finished: 2008-10-30 15:01:40.599
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Total Warnings: 24
Total Errors: 7
No. of SeqIDs Defined: 35
Actual SeqID Count: 35

Error code	Error Description
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23)
W 213	Artificial or Unknown found in <213> in SEQ ID (24) This error has occurred more than 20 times, will not be displayed

SEQUENCE LISTING

<110> POSCO
POSTECH Foundation
CHA, Hyung Joon
HWANG, Dong Soo

<120> Mussel Bioadhesive

<130> 20010-06USA

<140> 10599313

<141> 2008-10-30

<150> PCT/KR2005/000888

<151> 2005-03-25

<150> US 60/556,805

<151> 2004-03-26

<160> 35

<170> KopatentIn 1.71

<210> 1

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 1

ggcctgcagc agttctgaag aatacaaggg

30

<210> 2

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 2

gtagatctat acgccggacc agtgaacag

29

<210> 3

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 3
 cttgtatttt ccgctgtttt t 21

<210> 4
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 4
 aaaaacagcg gaaaatacaa g 21

<210> 5
 <211> 228
 <212> DNA
 <213> Mytilus galloprovincialis

<220>
 <221> CDS
 <222> (1)..(228)
 <223> Mytilus galloprovincialis foot protein-5 cDNA

<400> 5
 agt tct gaa gaa tac aaa ggt ggt tat tac cca ggc aat act tac cac 48
 Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Thr Tyr His
 1 5 10 15

tat cat tca ggt ggt agt tat cac gga tcc ggc tat cat gga gga tat 96
 Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr
 20 25 30

aag gga aag tat tac gga aag gca aag aaa tac tat tat aaa tat aaa 144
 Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
 35 40 45

aac agc gga aaa tac aag tat ctg aag aaa gct aga aaa tac cat aga 192
 Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
 50 55 60

aag ggt tac aag aag tat tat gga ggt ggt agc agt 228
 Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser
 65 70 75

<210> 6
 <211> 76
 <212> PRT
 <213> Mytilus galloprovincialis

<400> 6
 Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Thr Tyr His
 1 5 10 15
 Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr
 20 25 30
 Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
 35 40 45
 Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
 50 55 60
 Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser
 65 70 75

<210> 7
 <211> 180
 <212> DNA
 <213> mytilus edulis
 <220>
 <221> CDS
 <222> (1)..(180)
 <223> 6 times repeated sequence derived from mytilus edulis foot
 protein-1

<400> 7
 gct aaa ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca 48
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
 1 5 10 15
 ccg act tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa 96
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
 20 25 30
 ccg tct tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc 144
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
 35 40 45
 tat aag gct aaa ccg agt tac ccc ccg act tac aaa 180
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
 50 55 60

<210> 8
 <211> 60
 <212> PRT
 <213> mytilus edulis

<400> 8
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
 1 5 10 15
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys

20

25

30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
 35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
 50 55 60

<210> 9

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Bioadhesive protein(mgfp-150) coding sequence

<220>

<221> CDS

<222> (1)..(411)

<223> Bioadhesive protein(mgfp-150)

<400> 9

gct aaa ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca 48
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
 1 5 10 15

ccg act tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa 96
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
 20 25 30

ccg tct tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc 144
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
 35 40 45

tat aag gct aaa ccg agt tac ccc ccg act tac aaa agt tct gaa gaa 192
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
 50 55 60

tac aag ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt 240
 Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
 65 70 75 80

ggt agt tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat 288
 Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
 85 90 95

tac gga aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa 336
 Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
 100 105 110

tac aag tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag 384
 Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
 115 120 125

aag tat tat gga ggt agc agt gaa ttc
 Lys Tyr Tyr Gly Gly Ser Ser Glu Phe
 130 135

411

<210> 10
 <211> 137
 <212> PRT
 <213> Artificial Sequence

<400> 10
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
 1 5 10 15
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
 20 25 30
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
 35 40 45
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
 50 55 60
 Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
 65 70 75 80
 Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
 85 90 95
 Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
 100 105 110
 Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
 115 120 125
 Lys Tyr Tyr Gly Gly Ser Ser Glu Phe
 130 135

<210> 11
 <211> 411
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Bioadhesive protein(mgfp-051) coding sequence

<220>
 <221> CDS
 <222> (1)..(411)
 <223> Bioadhesive protein(mgfp-051)

<400> 11
 agt tct gaa gaa tac aag ggt ggt tat tac cca ggc aat tcg aac cac
 Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His

48

1	5	10	15	
tat cat tca ggt ggt agt tat cac gga tcc ggc tac cat gga gga tat				96
Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr				
20	25	30		
aag gga aag tat tac gga aag gca aag aaa tac tat tat aaa tat aaa				144
Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys				
35	40	45		
aac agc gga aaa tac aag tat cta aag aaa gct aga aaa tac cat aga				192
Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg				
50	55	60		
aag ggt tac aag aag tat tat gga ggt agc agt gaa ttc gct aaa ccg				240
Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro				
65	70	75	80	
tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca ccg act tat				288
Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr				
85	90	95		
aag gct aaa cct agc tat cca cct acg tac aaa gct aaa ccg tct tac				336
Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr				
100	105	110		
ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc tat aag gct				384
Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala				
115	120	125		
aaa ccg agt tac ccc ccg act tac aaa				411
Lys Pro Ser Tyr Pro Pro Thr Tyr Lys				
130	135			

<210> 12
 <211> 137
 <212> PRT
 <213> Artificial Sequence

<400> 12				
Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His				
1	5	10	15	
Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr				
20	25	30		
Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys				
35	40	45		
Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg				
50	55	60		
Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro				
65	70	75	80	
Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr				

	85	90	95	
Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr				
	100	105	110	
Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala				
	115	120	125	
Lys Pro Ser Tyr Pro Pro Thr Tyr Lys				
	130	135		
<210>	13			
<211>	591			
<212>	DNA			
<213>	Artificial Sequence			
<220>				
<223>	Bioadhesive protein(mgfp-151) coding sequence			
<220>				
<221>	CDS			
<222>	(1)..(591)			
<223>	Bioadhesive protein(mgfp-151)			
<400>	13			
gct aaa ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca				48
Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro				
1 5 10 15				
ccg act tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa				96
Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys				
20 25 30				
ccg tct tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc				144
Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr				
35 40 45				
tat aag gct aaa ccg agt tac ccc ccg act tac aaa agt tct gaa gaa				192
Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu				
50 55 60				
tac aag ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt				240
Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly				
65 70 75 80				
ggt agt tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat				288
Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr				
85 90 95				
tac gga aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa				336
Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys				
100 105 110				
tac aag tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag				384

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

aag tat tat gga ggt agc agt gaa ttc gct aaa ccg tct tac ccg ccg 432
Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
130 135 140

acc tac aaa gca aaa ccc tcg tac cca ccg act tat aag gct aaa cct 480
Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
145 150 155 160

agc tat cca cct acg tac aaa gct aaa ccg tct tac ccg ccg act tac 528
Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
165 170 175

aaa gca aaa ccg tcc tac cct ccg acc tat aag gct aaa ccg agt tac 576
Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
180 185 190

ccc ccg act tac aaa 591
Pro Pro Thr Tyr Lys
195

<210> 14
<211> 197
<212> PRT
<213> Artificial Sequence

<400> 14
Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
130 135 140

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
145 150 155 160

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
165 170 175

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
180 185 190

Pro Pro Thr Tyr Lys
195

<210> 15

<211> 354

<212> DNA

<213> Artificial Sequence

<220>

<223> construct for expression of Bioadhesive protein(mgfp-5) in pMDG05
vector

<220>

<221> CDS

<222> (1)..(351)

<223> Bioadhesive recombinant protein expressed in pMDG05 vector

<400> 15

atg ggg ggt tct cat cat cat cat cat cat ggt atg gct agc atg act 48
Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

ggt gga cag caa atg ggt cgg act ctg tac gac gat gac gat aag gat 96
Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

cga tgg gga tcc gag ctc gag atc tgc agc agt tct gaa gaa tac aag 144
Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt ggt agt 192
Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat tac gga 240
Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa tac aag 288
Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag aag tat 336
Tyr Leu Lys Lys Ala Arg Lys Tyr Hi